

Claims

1. A method for dynamically configuring a modular machine
whose machine modules (M1 to M6) are connected to one another
5 and to a control device (AS) via a communications network (KN
/ S1 to S3),
characterized by
 - determining the communications partners in the communications
network (KN) by means of one of the communications partners
 - 10 while the machine is in operation,
 - generating a suitable communications configuration by means
of one (M1) of the communications partners and
 - activating the generated communications configuration during
the runtime of the machine.
- 15 2. The method as claimed in claim 1, wherein the modular
machine is incorporated in a production process and generation
of the communications configuration is initiated by an
internal or external process event.
- 20 3. The method as claimed in claim 1 or 2, wherein the process
event is an alarm signaling a new communications partner, an
operator input or a change of a communications partner.
- 25 4. The method as claimed in one of the preceding claims,
wherein the generated communications configuration is stored
centrally in a server connected via the communications network
(KN) or non-centrally in one of the communications partners.
- 30 5. The method as claimed in one of the preceding claims,
wherein the communications network (KN) comprises at least one
subnetwork (S1 to S3) with which a second machine module (M4
to M6) is connected to a first machine module (M1 to M3) for

communication, so that the second machine module (M4 to M6) is connected indirectly to the communications network (KN) via the first machine module (M1 to M3).

- 5 6. A method for putting a modular machine into service by
- configuring the interaction of the machine modules (M1 to M6) prior to startup of the modular machine by means of an engineering system (ES) for solving an automation task without taking into account the communications topology of
 - 10 the individual machine modules (M1 to M6) and
 - dynamically configuring a communications network (KN) with which the machine modules (M1 to M6) are interconnected, as claimed in one of claims 1 to 5.

- 15 7. A modular machine having
- a plurality of machine modules (M1 to M6),
 - a control device (AS) for controlling the machine modules (M1 to M6) in an open- or closed-loop manner, and
 - a communications network (KN) with which the control device
 - 20 (AS) and the machine modules (M1 to M6) are interconnected for communication,
- characterized in that
- using one (M1) of the plurality of machine modules (M1 to M6) and/or using the control device (AS) the communications
 - 25 partners in the communications network (KN) can be determined and a suitable communications configuration can be generated and activated during runtime of the machine.

8. The modular machine as claimed in claim 7 which is
- 30 incorporated in an automation process, the generation of the communications configuration being triggerable by an internal or external process event.

9. The modular machine as claimed in claim 8, wherein the process event is an alarm signaling a new communications partner, an operator input or a change of a communications partner.

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10. The modular machine as claimed in one of claims 7 to 9, wherein the generated communications configuration is stored centrally in a server connected via the communications network (KN) or non-centrally in one of the communications partners.

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11. The modular machine as claimed in one of claims 7 to 10, wherein the communications network (KN) comprises at least one subnetwork (S1 to S3) with which a second machine module (M4 to M6) is connected to a first machine module (M1 to M3) for
15 communication, so that the second machine module (M4 to M6) is connected indirectly to the communications network (KN) via the first machine module (M1 to M3).